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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Paper No. 13

Application Number: 09/356,241
Filing Date: July 16, 1999
Appellant(s): BATES ET AL.

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For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 9/19/02.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct. However, there is a change in status due to an appeal conference's decision:

Claims 1-13, 38 and 60-66 are allowable over the prior art of record.

Claims 14-19, 21, 22, 24-27, 48, 50, 51, 53-57 are rejected.

Claims 20,23, 49 and 52 are objected as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct. However, due to the appeal conference's decision, claims 14-19, 21, 22, 24-27, 48, 50, 51, 53-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shoham (USP 5855015) in view of Rose et al (USP 5724567).

(7) Grouping of Claims

Appellant's brief includes a statement that claims 1-27 and 48-57 do not stand or fall together.

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct. However, there is a change in status due to an appeal conference's decision:

Claims 14-19, 21, 22, 24-27, 48, 50, 51, and 53-57 are rejected and are on appeal.

(9) Prior Art of Record

5,855,015	SHOHAM	5-1995
5,724,567	ROSE ET AL	4-1994

(10) Grounds of Rejection

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 14-19, 21, 22, 24-27, 48, 50, 51and 53-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shoham (USP5855015) in view of Rose et al (USP 5724567).

As to claim 14, Shoham teaches the same claimed limitations:

"in response to a search request, generating a result set including identifications of a subset of a plurality of records in a database that match the search request" as the

user enter a specific or general query at block 120, or select an information resource of interest to initialize the heuristics, the system will determine which information resources to present to the user. This information shows that the system generate information resources what match with user input (fig. 4, col. 8, lines 25-31);

"ordering the identifications of the records in the result set using a user feedback parameter associated with each record in the result set" as 20 information resources each having a ranking between zero and ten indicative of their relevance or "interestingness" to the user. The heuristics developed based on the training examples continually adapt to the user's interests as determined by the user feedback (col. 8, lines 5-20).

Shoham fails to teach the claimed limitation "for each of the plurality of records, selectively updating the user feedback parameter associated therewith in response to detecting that the record is the most recently accessed record in the result set". However, Rose teaches a message that has been selected by the user, the client program informs the server 10 of the selected message. In response, the server retrieves the complete text of the message, which is illustrated in fig. 3. If the user found the message to be of interest, a thumbs-up icon 38 can be selected. Alternatively, if the message was of little or no interest to the user, a thumbs-down icon 40 can be selected. When either of these two icons is selected, the indication provided thereby is forward to the server 10, where it is used to update the user profile, which contains messages. Each time a message is retrieved such as the data on which the message was posted to the system, the message's author, and the title or subject of the

message, feedback information regarding the user's degree of interest is obtained, to thereby maintain an up-to-date profile for the user, where user's profile contains messages (col. 4, lines 25-60; col. 5, lines 20-60). This information shows that after user updates his or her interest in a particular message, user profile is updated to indicate of degree of interest for each message including date and time for each message.

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to modify Rose's teaching of updating user profile to indicate of degree of interest for each message including date and time for each message in order to save time for searching or indicate user's degree of interest in each retrieve document and provide a convenient mechanism for notifying users when new items of information have been posted.

As to claim 15, Shoham fails to teach the claimed limitation "updating the user feedback parameter includes increasing a weight for the user feedback parameter associated with a first record in response to the first record being the most recently accessed record in the result set". However, Rose teaches that if the user indicates interest in a document, all of the significant terms in that document can be given increased weight in the user's profile (col. 6, lines 30-35).

As to claim 16, Shoham fails to teach the claimed limitation "increasing a weight for the user feedback parameter associated with a first record in response to the

number times a user accesses the first record". However, Rose teaches that each user profile also comprises a vector, based upon the user's indications as to his relative interest in previously retrieved documents. Each time a user provide a new response to a retrieved message, the profile vector is modified in accordance with the results of the indication. For example, if the user indicates interest in a document, all of the significant terms in that document can be given increased weight in the user's profile (col. 6, lines 30-35).

As to claim 17, Shoham teaches the claimed limitations:

"a plurality of weights, each weight associated with a keyword in the associated record" as the search heuristic is a approach which is to extract fit number of keywords from each document; the user's interests were represented with keywords and associated weight (col. 11, lines 16-20).

Shoham fails to teach the claimed limitation "ordering the records in the result set using the user feedback parameter associated with each record in the result set includes ordering the records using any weight associated with a keyword matching the search request". However, Rose teaches a message that has been selected by the user, the client program informs the server 10 of the selected message. In response, the server retrieves the complete text of the message which is illustrated in fig. 3. If the user found the message to be of interest, a thumbs-up icon 38 can be selected. Alternatively, if the message was of little or no interest to the user, a thumbs-down icon 40 can be selected. When either of these two icons is selected, the indication provided

thereby is forward to the server 10, where it is used to update the user profile, which contains messages. Each time a message is retrieved such as the data on which the message was posted to the system, the message's author, and the title or subject of the message, feedback information regarding the user's degree of interest is obtained, to thereby maintain an up-to-date profile for the user, where user's profile contains messages (col. 4, lines 25-60; col. 5, lines 20-60). This information shows that after user updates his or her interest in a particular message, user profile is updated to indicate of degree of interest for each message including date and time for each message.

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to modify Rose's teaching of updating user profile to indicate of degree of interest for each message including date and time for each message in order to save time for searching or indicate user's degree of interest in each retrieve document and provide a convenient mechanism for notifying users when new items of information have been posted.

As to claim 18, Shoham teaches the claimed limitation "increasing a first weight for the user feedback parameter associated with a first record in response to receipt of a search request matching a first keyword associated with the first weight" as (col. 11, lines 1-20).

As to claim 19, Shoham teaches the claimed limitation "generating the result set includes accessing a search request data structure that includes a plurality of search request records, each including a search request parameter identifying a unique combination of keywords, and a result set parameter identifying a subset of records in the database that match the unique combination of keywords" as (fig. 1, col. 5, lines 62-67; col. 6, lines 13-20).

As to claim 21, Shoham teaches the claimed limitations

"each record in database includes a Uniform Resource Identifier (URL) that identifies a document stored on a computer network" as information sources are authored utilizing the HTML and the hyperlinks are defined utilizing Uniform Resource Locators (URL's). Also HTTP is utilized to explore and retrieve the associated information resource specified by the URL (col. 6, lines 10-20)";

"the document stored at the URL associated with the first record" as (col. 6, lines 10-20). Shoham fails to teach the claimed limitation "wherein selectively updating the user feedback parameter includes selectively updating the user feedback parameter associated with a first record in the database in response to detecting multiple accesses". However, Rose teaches the above claimed limitation in col. 6, lines 30-35. It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to modify Rose's teaching of each user profile also comprises a vector, based upon the user's indications as to his relative interest in previously retrieved documents. Each time a use provides a new response to a retrieved

message, the profile vector is modified in accordance with the results of the indication. For example, if the user indicates interest in a document, all of the significant terms in that document can be given increased weight in the user's profile to Shoham's system in order to save time for searching or indicate user's degree of interest in each retrieve document and provide a convenient mechanism for notifying users when new items of information have been posted.

As to claim 22, Shoham fails to teach the claimed limitation "generating the result set includes generating at least one hypertext document including a plurality of hypertext links, each of which configured to access a document identified by a record in the result set". However, Shoham teaches that the user may also enter a specific or general query at block 120, or select an information resource of interest to initialize the heuristics. A null query indicates that the system should simply start exploring and use subsequent presentation and relevance feedback to shape the heuristics and determine which information resources to present to the user. Information resources are authored utilizing the HTML and the hyperlinks are defined URL's (col. 8, lines 25-30; col. 6, lines 15-20).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to modify Shoham's teaching of the user may also enter a specific or general query at block 120, or select an information resource of interest to initialize the heuristics. A null query indicates that the system should simply start exploring and use subsequent presentation and relevance feedback to shape the

heuristics and determine which information resources to present to the user. Information resources are authored utilizing the HTML and the hyperlinks are defined URL's in order to return the most relevance of information resources to user.

As to claim 24, Shoham teaches the same claimed limitation in claim 11 and 14.

As to claim 25, Shoham teaches the same claimed limitation in 24, except Shoham fails to teach the claimed limitation "a signal bearing medium bearing the first and second programs". However, Shoham teaches that the user may also enter a specific or general query or select an information resource of interest to initialize the heuristics. A null query indicates subsequent presentation and relevance feedback to shape the heuristics and determine which information resources to present to the user. This information shows that the system should have a program in order to match documents with user's request; a memory 82 (col. 8, lines 25-30). Also, Rose teaches that each user profile also comprises a vector, based upon the user's indications as to his relative interest in previously retrieved documents. Each time a user provide a new response to a retrieved message, the profile vector is modified in accordance with the results of the indication. For example, if the user indicates interest in a document, all of the significant terms in that document can be given increased weight in the user's profile. This information indicates that the system should have a program in order to detect times user access document (col. 6, lines 30-35). It is obviously that the memory 82 can be used as a signal medium to synchronize between those programs.

As to claims 26, and 57, Shoham teaches the claimed limitation "the signal bearing medium includes at least one of a recordable medium" as (col. 6, lines 60-67; col. 7, lines 1-5) "a transmission type medium" as (col. 5, lines 50-60).

As to claim 27, Shoham teaches the claimed limitations:

"in response to a search request.....that match the search request" as (col. 8, lines 25-30; col. 6, lines 15-20);

"ordering the identifications of the records ....in the result set....that match the search request" as (col. 8, lines 15-25; col. 11, lines 15-20; col. 8, lines 5-25). Shoham fails to teach the claimed limitation "for each of the plurality .....to user interaction with the record". However, Rose teaches the above claimed limitation in col. 6, lines 30-35.

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to modify Rose's teaching of each user profile also comprises a vector, based upon the user's indications as to his relative interest in previously retrieved documents. Each time a user provides a new response to a retrieved message, the profile vector is modified in accordance with the results of the indication. For example, if the user indicates interest in a document, all of the significant terms in that document can be given increased weight in the user's profile to Shoham's system in order to save time for searching or indicate user's degree of interest in each retrieve document and provide a convenient mechanism for notifying users when new items of information have been posted.

As to claim 48, Shham teaches the claimed limitation "selectively updating at least one weight..... search request for the user" as (col. 11, lines 1-20).

As to claim 50, Shoham fails to teach the claimed limitation "updating at least weight for the user feedback parameter includes increasing ..... the most recently accessed record in the result set". However, Rose teaches that if the user indicates interest in a document, all of the significant terms in that document can be given increased weight in the user's profile (col. 6, lines 30-35).

As to claim 51, Shoham teaches the claimed limitation "generating the result set includes accessing a search request data structure that includes a plurality of search request records, each including a search request parameter identifying a unique combination of keywords, and a result set parameter identifying a subset of records in the database that match the unique combination of keywords" as (fig. 1, col. 5, lines 62-67; col. 6, lines 13-20).

As to claim 53, Shoham teaches the claimed limitations

"each record in database includes a Uniform Resource Identifier (URL) that identifies a document stored on a computer network" as information sources are authored utilizing the HTML and the hyperlinks are defined utilizing Uniform Resource

Locators (URL's). Also HTTP is utilized to explore and retrieve the associated information resource specified by the URL (col. 6, lines 10-20)";

Shoham fails to teach the claimed limitation "wherein selectively updating the user feedback parameter includes .....user interaction with the first record". However, Rose teaches the above claimed limitation in col. 6, lines 30-35. It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to modify Rose's teaching of each user profile also comprises a vector, based upon the user's indications as to his relative interest in previously retrieved documents. Each time a user provide a new response to a retrieved message, the profile vector is modified in accordance with the results of the indication. For example, if the user indicates interest in a document, all of the significant terms in that document can be given increased weight in the user's profile to Shoham's system in order to save time for searching or indicate user's degree of interest in each retrieve document and provide a convenient mechanism for notifying users when new items of information have been posted.

As to claim 54, Shoham fails to teach the claimed limitation "generating the result .....a record in the result set". However, Shoham teaches that the user may also enter a specific or general query at block 120, or select an information resource of interest to initialize the heuristics. A null query indicates that the system should simply start exploring and use subsequent presentation and relevance feedback to shape the heuristics and determine which information resources to present to the user.

Information resources are authored utilizing the HTML and the hyperlinks are defined URL's (col. 8, lines 25-30; col. 6, lines 15-20).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to modify Shoham's teaching of the user may also enter a specific or general query at block 120, or select an information resource of interest to initialize the heuristics. A null query indicates that the system should simply start exploring and use subsequent presentation and relevance feedback to shape the heuristics and determine which information resources to present to the user. Information resources are authored utilizing the HTML and the hyperlinks are defined URL's in order to return the most relevance of information resources to user.

As to claim 55 recites the same limitations as referred to claims 24 and 27. Therefore, it is rejected under the same rational.

As to claim 56 recites the same limitations as referred to claims 55 and 25. Therefore, it is rejected under the same rational.

Allowable Subject Matter

4. Claims 38, 60-66 are allowed.

As to claim 38, none of the available prior art of record teaches or fairly suggests ordering the identifications of .....wherein selectively updating the user feedback parameter includes updating each copy of the user feedback parameter in the search

request data structure. Updating the query based on the feedback is well known in the art as taught by Shoham. However, prior art such as Shoham and Rose do not teach "receiving a search request that specifies a plurality of keywords.... ordering the identifications of .....wherein selectively updating the user feedback parameter includes updating each copy of the user feedback parameter in the search request data structure" in the specific combination as recited in claim 38.

As to claim 64, none of the available prior art of record teaches or fairly suggests wherein the program is further configured to order the identifications of the subset of records.....to selectively update the user feedback parameter by updating each copy of the user feedback parameter in the search request data structure. Updating the query based on the feedback is well known in the art as taught by Shoham. However, prior art such as Shoham and Rose do not teach "a memory within which is resident a search request data structure, the search request data structure including a plurality .....wherein the program is further configured to order the identifications of the subset of records.....to selectively update the user feedback parameter by updating each copy of the user feedback parameter in the search request data structure" in the specific combination as recited in claim 64.

As to claim 65, none of the available prior art of record teaches or fairly suggests wherein the program is further configured to order the identifications of subset of records.....updating each copy of the user feedback parameter in the search

request data structure. Updating the query based on the feedback is well known in the art as taught by Shoham. However, prior art such as Shoham and Rose do not teach "a program configured to, in response to a search request..... wherein the program is further configured to order the identifications of subset of records.....updating each copy of the user feedback parameter in the search request data structure" in the specific combination as recited in claim 65.

(11) Response to Argument

Allowable Subject Matter

Claims 1-13 are allowed.

As to claims 1, 11 and 12, it is agreed with appellant that Shoham does not detect multiple accesses thereto by a user as specified in the claims 1, 11 and 12.

Claims 20, 23, 49, 52 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to claims 20 and 52, it is agreed with appellant that Shoham does not partition a result set into a plurality of relevance groups, and sorting the relevance groups using the weights from user feedback parameter as specified in the claims 20 and 52.

As to claim 23, it is agreed with appellant that Shoham does not generate a script in a hypertext document that generates a notification configured to indicates that an associated record has been accessed by a user as specified in the claim 23.

As to claim 49, it is agreed with appellant that Shoham does not increase a weight for a user feedback parameter associated with a first record in response to detecting multiple accesses thereto by a user as specified in the claim 49.

Independent claims 14, 24-25:

Appellant's arguments: Appellant argued that nowhere in the passages of Rose is there any appreciation that the fact that a record is accessed most recently has any particular relevance. Claim 14 is non-obvious over Shoham and Rose based upon the recitation of updating a user feedback parameter based upon a record being the most recently accessed record in a result set.

Response: Shoham teaches block 126 of figure 4 for selecting information resources to the user based on a presentation heuristic, and block 128 for user to provide relevance feedback to the system via a user interface for each of the information resources. Shoham discusses that for an active feedback, which would require the user to enter some indication of the relevance of the currently presented information resource into the system (col. 8, lines 39 to col. 9, line 8 "how often to revisit nodes which have been previously searched among others"). Shoham also teaches in figure. 5, block 124a for selecting a node having an information resource. This node is specified by the user

and keeping track of previously visited nodes. Shoham uses block 124b of figure 5 for extracting features, which evaluate the search heuristic and determine how interesting a particular resource will be to the user (col. 9, line 57 to col. 10, line 4).

Thus, Shoham teaches the claimed most recently accessed record by keeping track the previously visited node.

In addition, Rose teaches a message that has been selected by the user, the client program informs the server 10 of the selected message. In response, the server retrieves the complete text of the message, which is illustrated in fig. 3. If the user found the message to be of interest, a thumbs-up icon 38 can be selected. Alternatively, if the message was of little or no interest to the user, a thumbs-down icon 40 can be selected. The user is required to select one of the two icons 38 or 40, which indicates his or her degree of interest in the message. When one of the icons is selected, the window is closed and the message disappears from the screen. With this approach, each time a message is retrieved, feedback information regarding the user's degree of interest is obtained, to thereby maintain an up-to-date profile for the user. Each user profile also comprises a vector, based upon the user's indications as to his relative interest in previously retrieved documents. Each time, a user provides a new response to a retrieved message, the profile vector is modified in accordance with the results of the indication (col. 5, lines 20-60; col. 6, lines 30-35; col. 4, lines 25-60). In order to show which document is previous retrieved document, the system keeps track of accessed documents.

Thus, it is obvious to a person of an ordinary skill in the art at the time the invention was made to modify Rose's teaching of tracking of accessed documents into Shoham's teaching of user interface to enter indication of the relevance of the previously information resource into the system in order to detect the document is the most recently accessed document.

For claims 24-25 are similar as claim 14. Thus, they are responded as to claim 14.

Independent 27, 55 and 56.

Appellant's arguments:

(1) The weights for a document in Shoham are based upon a TFIDF scheme that is based upon the frequency and positioning of keywords in the document, and not on user feedback.

(2) Shoham cannot disclose either that a result set is ordered based upon user feedback parameters associated with a record or that a particular weight for a record is updated based upon user interaction with record. Rose, similar to Shoham, relies upon user feedback to update weights for a user profile vector, and not a vector associated with a document.

Response:

For the first argurment, Shoham teaches that a user provides feedback indicative of the degree of relevance of the presented information via use interface 98 in the form of a rating, score. This information shows that the degree of relevance of presented information is based on user feedback, where the degree of relevance of presented information is represented as the weight of a document (col. 7, lines 29-35).

For the second argument, Shoham teaches that the user provides feedback indicative of the degree of relevance of the presented information via use interface 98 in the form of a rating, score. In one embodiment of the present invention operating in the Web environment, the input to the heuristics initialization, i.e., the training example, consists of 20 information resources each having a ranking between zero an ten indicative of their relevance or interestingness to the user. The output of the initialization process would be a function that takes any Web information resource and returns a ranking within the range of zero to ten (col. 7, lines 29-35; col. 8, liens 10-16). This information teaches that each time a user provides feedback to indicate of the degree of relevance, the system has to store the feedback indicative of the degree of relevance for each information resource to rank information resource based on the degree of relevance. After a user inputs a query or requests some information resources, the system returns an output as a set result, which is ranking from zero to ten to indicate of their relevance or interestingness to the user. Thus, ranking the information resource based on the degree of relevance is read on the claimed limitation

"ordering the identifications of the records in the result set using a user feedback parameter associated with each record in the result set".

Claims 55-56 are similar to claim 27. Thus, they are responded as claim 27.

Dependent claims 21, 22, 48, 50, 51, 53-54, and 57.

As to claims 21, 22, 48, 53, 54, and 57, appellant indicated that they are not separately argued.

Claims 21 and 22 depend on a rejected based claim 14. Thus, it is responded as discussed in claim 14.

Claim 48 depends on a rejected based claim 27. Thus, it is responded as discussed in claim 27.

As to claim 50, appellant discussed that the combination of Shoham and Rose is not disclosed the claimed limitation "increasing a weight for a user feedback parameter associated with a first record in response to the first record being the most recently accessed record in a result set. However, Shoham teaches that the user provides feedback indicative of the degree of relevance of the presented information via use interface 98 in the form of a rating, score and how often to revisit nodes which have been previously searched among others (col. 7, lines 25-35; col. 8, lines 45-46). This information shows that each time a user provides feedback indicate of the degree of

relevance of the presented information, which is represented as score, this feedback can contain different scores. The score of this feedback may be increasing. Thus, Shoham teaches the claimed increasing a weight for a user feedback parameter associated with a first record in response to the first record being the most recently accessed record in a result set.

As to claim 51, appellant can find no disclosure in Shoham or Rose of anything even arguably relevant to the claimed limitation "generating the result set includes accessing a search request data structure that includes a plurality of search request records, each including a search request parameter identifying a unique combination of keywords, and a result set parameter identifying a subset of records in the database that match the unique combination of keywords".

Shoham teaches the claimed limitations:

"generating the result set includes accessing a search request data structure that includes a plurality of search request records" as a user may enter a specific or general query at block 120, or select an information resource of interest to initialize the heuristics. The system determines, which information resources to present to the user. This information shows that after a user enter a query, the system displays information resources to a user (col. 8, lines 25-30);

"each including a search request parameter identifying a unique combination of keywords, and a result set parameter identifying a subset of records in database that match the unique combination of keyword" as the user may also enter a specific or

general query at block 120, or select an information resource of interest to initialize the heuristics. The system determines which information resources to present to the user (col. 8, lines 25-40). This information indicates the system matches the user's query with identified information before returning a set result to a user.

Claim 53 depends on a rejected based claim 27. It is responded as discussed in claim 27.

Claim 54 depends on a canceled claim 33. It is rejected with an assumption that it depends on claim 53. Claim 54 is rejected as discussed in the above Ground of Rejection.

Claim 57 depends on a rejected based claim 56, which is rejected as discussed in claim 56.

For the above reasons, it is believed that the rejections should be sustained.

Cam-Y Truong

Respectfully submitted,

October 30, 2002

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